COASTAL CONSERVANCY

Staff Recommendation
March 26, 2015

DUTCH SLOUGH TIDAL MARSH RESTORATION PROJECT – EMERSON AND GILBERT PARCELS CONSTRUCTION

Project No. 02-066-02
Project Manager: Jeff Melby

RECOMMENDED ACTION: Authorize disbursement of up to $5,030,000, including $1,000,000 from the United States Fish and Wildlife Service and $1,280,000 from the United States Environmental Protection Agency, to Reclamation District 2137 for construction of the Emerson and Gilbert Parcels of the Dutch Slough Tidal Marsh Restoration Project.

LOCATION: Western portion of the Sacramento–San Joaquin Delta east of the confluence of the Sacramento and San Joaquin rivers, City of Oakley, Contra Costa County

PROGRAM CATEGORY: San Francisco Bay Area Conservancy

EXHIBITS

Exhibit 1: Project Location and Site Maps

Exhibit 2: Restoration Plan

Exhibit 3: October 31, 2002 Staff Recommendation

Exhibit 4: Final Environmental Impact Report (available for review at http://water.ca.gov/floodsafe/fessro/environmental/dee/dutchslough/dutch_docs.cfm)

Exhibit 5: Final Supplemental Environmental Impact Report (available for review at http://water.ca.gov/floodsafe/fessro/environmental/dee/dutchslough/dutch_docs.cfm)

Exhibit 6: Mitigation Monitoring and Reporting Program (aka Exhibit 3 of the FSEIR)

Exhibit 7: Project Letters

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31160-31165 of the Public Resources Code:

"The State Coastal Conservancy hereby accepts the grants of one million dollars ($1,000,000) from the United States Fish and Wildlife Service (USFWS) and one million four hundred thousand dollars ($1,400,000) from the United States Environmental Protection Agency (USEPA), and authorizes the disbursement of up to five million thirty thousand dollars ($5,030,000) including two million seven hundred and fifty thousand dollars ($2,750,000) in Conservancy funds to Reclamation District 2137 (RD) for restoration of the Emerson and Gilbert Parcels of the Dutch Slough Tidal Marsh Restoration Project (the Project), subject to the following conditions:

1. Prior to the disbursement of any Conservancy funds for the Project, the RD shall submit for the review and approval of the Conservancy's Executive Officer
    a. A work program for the Project, including schedule, budget, and names of any contractors it intends to use to complete the Project.
    b. A sign plan to acknowledge Conservancy, USFWS, and USEPA funding for the Project.
2. Prior to construction of the project, the RD shall provide documentation that all permits and approvals required for the Project under federal, state, and local laws have been obtained.
3. The RD shall provide the Conservancy with copies of all mitigation monitoring and reporting documentation required by the Mitigation Monitoring and Reporting Program adopted by the Department of Water Resources (DWR) on March 17, 2010 and on October 31, 2014 (Exhibits 4-6).
4. No federal funds will be awarded through the Conservancy until all of the conditions of the federal grants are satisfied. The RD shall assist the Conservancy in complying with the conditions of the federal grants funding this project.
5. Prior to releasing funds to the grantee, DWR shall have entered into an agreement with the Conservancy sufficient to protect the public interest in the improvements and to provide public access to the project for the reasonable life of the improvements."

Staff further recommends that the Conservancy adopt the following findings:

"Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed project is consistent with the current Project Selection Criteria and Guidelines.
2. The proposed authorization is consistent with the purposes and objectives of Chapter 4.5 of Division 21 of the Public Resources Code, regarding the resource and recreational goals of the San Francisco Bay Area.
3. The Conservancy has independently reviewed and considered the information contained in the FEIR as a responsible agency under the California Environmental Quality Act (CEQA). The FEIR and FSEIR identify potential significant adverse environmental effects from implementation of the Dutch Slough Restoration Project, as modified in the FSEIR, in the areas of Hydrology and Geomorphology; Water Quality; Geology and Soils; Biological Resources; Air Quality; Noise; Recreation; Cultural Resources; and Hazards and Hazardous Materials. With regard to these impacts, the Conservancy finds

c. Mitigation measures have been adopted by the lead agency for the Project, DWR. As landowner, implementation of these mitigation measures is within the jurisdiction of DWR.

d. The Project, as modified by incorporation of the design and mitigation measures identified in the FEIR and FSEIR, would avoid the significant adverse environmental effects or mitigate the effects to a point where no significant effect on the environment would occur, except for the unavoidable significant impacts identified in Finding 4, below.

e. Except for the unavoidable significant impacts, the Conservancy finds no substantial evidence, based on a review of the record as a whole, that the Project as mitigated may have a significant effect on the environment.

4. Construction of the Project may result in significant and unavoidable impacts in the areas of creation of habitat that benefits non-native fish species, demolition of historic structures/ landscape features that contribute to the rural historic landscape, and cumulative impacts to cultural resources as detailed in the staff recommendation, FEIR, and FSEIR. Specific environmental and other benefits of the Project described in the accompanying staff recommendation and detailed in the FEIR and FSEIR outweigh and render acceptable these unavoidable adverse environmental effects because the Project:

   a. Will result in the long-term environmental benefits of restoring native habitat for threatened Chinook salmon, Sacramento splittail, and other plant and animal species that are threatened by loss of critical habitat,

   b. Will support the Sacramento Delta food web by producing and exporting nutrients,

   c. Will contribute to scientific understanding of restoration processes, and

   d. Provide shoreline access, recreational and educational opportunities for the public.

5. The Conservancy adopts the Statement of Overriding Considerations set forth in this staff report."

PROJECT SUMMARY:

This authorization would provide up to $5,030,000 for restoration of the Emerson and Gilbert Parcels of the Dutch Slough Tidal Marsh Restoration Project (Project) by authorizing the Conservancy to accept and disburse a $1 million grant from the United States Fish and Wildlife Service (USFWS) National Coastal Wetlands Conservation Grant Program and $1,400,000 from the United States Environmental Protection Agency (USEPA) San Francisco Bay Area Water Quality Improvement Fund, as well as provide $2,750,000 in Conservancy funds to meet the matching requirements of these grants. In addition, at least $21,800,000 in other funds is being provided by the California Department of Water Resources (DWR) and the California Department of Fish and Wildlife (DFW) to implement this phase of the Project.

The Project will be the first implementation phase of the largest tidal wetland restoration in the

Sacramento-San Joaquin Delta (Delta), and the first to be designed with the scientific rigor needed to assist in designing and implementing future Delta restoration projects. It is an important step in restoring fisheries habitat in the San Francisco Bay-Delta ecosystem. It will also be the largest *freshwater* tidal marsh restoration in California. The Conservancy has assisted in the acquisition and planning of the Project since 2002. The October 31, 2002 staff recommendation, attached as Exhibit 3, describes the acquisition and planning of the Project.

The Project will restore tidal marsh and associated wetland, riparian, and terrestrial habitats on 1,178 acres in the Delta in eastern Contra Costa County (Exhibit 1). The Delta was once a vast marsh area interwoven with tidal channels and riparian woodlands. Its ecosystem has been critically impaired by pollution; invasions of exotic species; and anthropogenic changes in hydrology, including dams, channel straightening and armoring, and water diversions. These impacts have resulted in severe loss of natural habitats and decline in native species. Numerous planning processes, including the CALFED Bay-Delta Program's Ecosystem Restoration Program Plan, Interagency Ecological Program, Bay Delta Conservation Plan, Delta Stewardship Council's Delta Plan, and Delta Vision Strategic Plan, have identified restoration of tidal marsh as integral to improving the health of the Delta ecosystem. The Project has three overarching goals:

> Ecological: Benefit native species by re-establishing natural ecological processes and habitats
> Scientific: Assess the development of the restored habitats and measure ecosystem responses so that future Delta restoration projects will be more successful
> Social: Provide shoreline access, educational and recreational opportunities.

The Project will restore approximately 570 acres of tidal marsh and riparian habitat, 150 acres of subtidal open water habitat, 100 acres of managed nontidal marsh for California Black Rail habitat enhancement and subsidence reversal (e.g., plant matter accumulation), and 130 acres of enhanced irrigated pasture (Exhibits 1 and 2). Planning for the Project has been phased between the original three farms—Emerson, Gilbert and Burroughs —acquired in 2003. The Emerson parcel portion of the Project will restore 240 acres of intertidal marsh, 15 acres of riparian woodland and scrub, and 100 acres of open tidal waters. The Gilbert parcel portion will restore 130 acres of intertidal marsh, 3 acres of riparian woodland and scrub, and 80 acres of managed marsh. The remaining, easternmost Burroughs parcel (Exhibits 1 and 2) is not part of this initial implementation phase, but may be restored at a later time if sufficient funding becomes available. (See Project History, below)

The Project design (Exhibit 2) is the result of an extensive planning process which began in 2002, when the Natural Heritage Institute first proposed the Project. The land was purchased by DWR with funds from the Conservancy and the CALFED Bay-Delta Ecosystem Restoration Program. Restoration planning involved data collection, site analysis, feasibility study, and development and analysis of alternatives to restore a variety of habitats. Input was received from a series of public meetings and a Project restoration committee which included representatives from DWR, the Conservancy, City of Oakley, Contra Costa County, Contra Costa Mosquito and Vector Control District, Contra Costa Water District, Ironhouse Sanitary District (ISD), East Bay Regional Park District, Regional Water Quality Control Board, DFW, National Marine Fisheries

Service and USFWS. An Adaptive Management Working Group and Technical Advisory Committee comprised of distinguished scientists and engineers reviewed the science used in the development of the restoration plan and guided implementation of an adaptive management approach to site restoration. An adaptive management, monitoring and maintenance plan has been prepared to ensure that the Project achieves its objectives and to enable subsequent phases and other restoration projects to learn from this project. DWR, the landowner and Lead Agency for the Project, formally approved the Final Environmental Impact Report (FEIR) on March 17, 2010 and the Final Supplemental EIR (FSEIR) on October 31, 2014.

The Project is designed to create large expanses of intertidal tule and/or cattail marshes. These marshes develop in areas where the soil surface is exposed at low tide and flooded at high tide. To maximize the area that will become tidal marsh after the levees are breached, higher (southern) areas will be graded down and the excavated soil moved to areas of lower elevation. Because the northern portions of the site are the most subsided, it is not economically feasible to import the large quantities of material necessary to bring these areas to marsh elevations. These areas will be restored or enhanced as other habitats—open tidal water, managed marsh, or uplands, for Emerson, Gilbert, and Burroughs parcels, respectively. The plan requires onsite cut and fill of approximately 1.1 million cubic yards (CY) of material, in addition to the placement of approximately 600,000 CY of supplemental fill, most of which will come from the related Ironhouse restoration project, reviewed in the FEIR. These quantities include fill required for the levees on the eastern and southern boundaries of the Project. The flood protection levee along the southern perimeter of the project will provide protection from flooding to adjacent lands and provide for upland habitat along the perimeter of the Project.

Emerson Parcel

On the southwestern corner of the Emerson parcel, Marsh Creek will be re-routed onto the site in order to restore the creek delta and provide seasonal freshwater flows which are expected to attract salmon into the restored marsh area. The creek channel will meander through the parcel and exit to Dutch Slough (Exhibit 2). This will extend the benefits of the restoration creating a large, contiguous marsh habitat connected to Marsh Creek, and is expected to provide significant ecological value for native fish targeted by the Project.

On the northeastern section of the Emerson parcel, a subtidal open water habitat will be created. This most subsided portion of the parcel will be deepened to: 1) obtain fill material, and 2) reduce the potential for colonization by undesirable invasive submerged aquatic vegetation, which tends to grow at shallower depths. This area will be isolated from the adjacent tidal marsh by a berm to be planted with riparian vegetation. This will allow the levee at the north end of the Emerson parcel to be breached to Emerson Slough to create the subtidal open water area. Open water is expected to be highly compatible with public access on Emerson, providing good visibility from the trail and opportunities for canoeing and fishing.

Gilbert Parcel

Restoration design on the Gilbert parcel provides for small and medium low marsh and mid marsh areas to allow adaptive management experiments to compare ecological benefits of the different areas. These marshes will complement the large low marsh and mid marsh areas on Burroughs.

The subsided northern part of Gilbert currently supports freshwater marsh vegetation that is occupied by a small population of California Black Rails. This area will remain leveed and water levels will be managed to enhance Black Rail habitat and reverse land subsidence that is occurring in this area. Existing and new water control structures will be used as possible, supplemented with new structures to manage the appropriate water level. Grading and disturbance in the existing wetlands and Black Rail habitat in north Gilbert will be avoided or limited as possible and required by permits. A new levee will be constructed to isolate north Gilbert from the tidally-inundated south Gilbert.

Public Access

This authorization includes the following public access components:

- Trail: A loop trail encompassing the Emerson parcel will connect to the existing East Bay Regional Park District trail system. The trail surface will be mostly gravel, with asphalt in some areas, and will comply with the Americans with Disabilities Act. Bridges will be constructed over all four levee breaches.
- Interpretive exhibits: The trail will include exhibits to educate the public about the restoration, Delta ecology, and the site's cultural resources.
- Fishing: A fishing pier/platform will be constructed at the edge of the open water area on the Emerson parcel.

Related Projects

The FEIR discusses two projects that are related to the Restoration Project, but are not included in the SEIR or this Project authorization—the Ironhouse Marsh Creek Delta Habitat Enhancement project (Ironhouse Project) and the Dutch Slough Community Park. The Ironhouse Project involves restoration of a portion of the Marsh Creek delta on a 100-acre parcel to the west of Marsh Creek, owned by the ISD.

With funding from the Conservancy, the City of Oakley prepared a Dutch Slough Community Park and Public Access Conceptual Master Plan for the 55-acre site adjacent to the Project site (Exhibit 1). An extensive planning process involving many stakeholders ensured that the plan balances the objectives of this Project with the City's recreational objectives. The park will be the City's largest and will be the main public access point to the Project site. Construction of the park is not part of this initial construction phase of the Project, but is expected to be built in a future phase.

Both of these related projects are on separate, but parallel paths to approval and development, and will provide significant amenities to the Project.

The Grantee

The RD is partnering with DWR to implement the Project. The RD is also responsible the maintenance of the levees around the Emerson and Gilbert parcels of the Project. (The third parcel, Burroughs, is part of a separate Reclamation District.) Reclamation District boards are made up of landowners within the RD. Two of the three trustees on the RD 2137 Board are DWR employees; the third is the owner of the parcel that will be deeded to the City of Oakley for development of the Community Park, adjacent to the Project site. Because the bond funds provided by DWR must be granted to local agencies, the RD is the agency that will be a party to all contracts necessary to complete the Project. A representative of the RD is an active member of the Project Management Team. The other members are from the Conservancy and DWR.

Site Description: The Project site comprises 1,178 acres located in the city of Oakley, in the western Delta, in northeastern Contra Costa County (Exhibit 1). The site is located immediately southeast of the East Bay Regional Park District's Big Break Regional Shoreline, and adjacent to a planned 55-acre regional recreational park that will be owned by the City of Oakley. The Project site is bounded on the north by Dutch Slough, on the south by the Contra Costa Canal, on the east by Jersey Island Road, and on the west by Marsh Creek.

The Project site encompasses three separate parcels, each of which is protected from flooding by separate levee systems. The three parcels, named after the former landowners, from west to east are the Emerson parcel (426 acres), Gilbert parcel (305 acres), and Burroughs parcel (447 acres). All three parcels slope downward from south to north, and elevations range from about 6 feet below mean sea level to about 6 feet above. The restoration area also includes Emerson Slough and Little Dutch Slough, and portions of Marsh Creek and Dutch Slough. Some of the soils to implement the proposed restoration activities within the restoration area may be taken from a 100-acre plot owned by ISD and located southwest of the Emerson parcel (Exhibit 1).

The Jose Vineyard, an approximately 14-acre historic vineyard on the Emerson Parcel, will be preserved in response to the presence of a prehistoric habitation site and comments on the Draft SEIR. The vineyard will be leased for commercial wine grape production, but with restrictions to protect sensitive cultural and biological resources. No excavation of soils would occur within this area. Approximately 13.4 acres of vines out of 14 acres would be preserved and managed as a vineyard. Two portions of this preserved area would be managed for native plants: an area of about 0.6 acre in the southwest corner of the vineyard, and about 0.6 acres along the northeast perimeter of the vineyard.

Project History: For over a hundred years, the properties have been diked and used for grazing and dairy operations. The former landowner families had been farming in eastern Contra Costa County for generations. The Emerson family owned its land since the mid-nineteenth century and operated a dairy on the site since the early twentieth century. The Emerson Dairy was the last dairy operating in Contra Costa County. The Burroughs family purchased the lands between Emerson Slough and Jersey Island Road in 1906 and managed them as a dairy for several decades. In 1974, the Burroughs sold the parcel immediately east of Emerson Slough to the

Gilbert Family. The Burroughs and Gilbert parcels then managed as range land for over two decades.

The site is located within the city limits of Oakley and is inside the County's Urban Limit Line. In the 1990 Contra Costa County General Plan, the Project site was zoned "M-8", mixed use development. In 1997, the landowners and the County recorded development agreements on all three properties that would allow for development of a total of 4,100-6,000 residential units on the 1,700 acres owned by these two families, which included property both north and south of the Contra Costa Canal. When the City of Oakley incorporated in 1999, it was required to honor these development agreements.

In 2003, the Project site (all north of the Contra Costa Canal) was acquired by DWR for $28 million with a grant of $5 million from the Conservancy and a grant of $23 million from the CALFED Ecosystem Restoration Program (ERP). In 2003, ERP provided a grant of $1,500,000 to the Conservancy for Project planning. Additionally, the Conservancy provided over $500,000 for Project planning. Planning is now complete, and once the regulatory permits are received (expected in Spring 2015), the first phase of the Project will be implemented.

In 2008 then-Governor Arnold Schwarzenegger identified the Dutch Slough Tidal Marsh Restoration Project as critical for providing spawning and feeding areas for native fishes; and he directed the legislature to fund additional restoration in the Delta. The 2009 Legislature directed DWR to "assist in implementing early action ecosystem restoration projects, including….Dutch Slough tidal marsh restoration" though no specific funding for the restoration was appropriated. (SBX7-1 (2009); Water Code § 85085 (c), (d)).

PROJECT FINANCING

The source of the majority of Project implementation funds comes from DWR's Delta Levee's Program. This Program grants bond funds to Reclamation Districts for levee projects, as well as habitat improvement projects such as the Project. Although DWR is the Lead Agency for the Project, all funds are being directed through the RD, because the Program can only fund projects through such Levee Maintaining Agencies.

Coastal Conservancy	$2,750,000
USFWS (through SCC)	1,000,000
USEPA (through SCC)	1,400,000
DWR	15,900,000
DFW	5,900,000
Total Project Costs	$26,950,000

The expected source of Conservancy funds for the Project is the 2012-2013 fiscal year appropriation to the Conservancy from the Habitat Conservation Fund ("HCF") established by the California Wildlife Protection Act of 1990 (Proposition 117), Fish and Game Code §2780 *et seq*. Pursuant to Fish and Wildlife Code Section 2786, HCF funds may be used for restoration or enhancement of wetlands (subsection d), aquatic habitat for rearing of anadromous salmonids (subsection e), or riparian habitat (subsection f). The Project will restore tidal marsh and associated wetland, riparian, and terrestrial habitats, including native, rearing habitat for

threatened Chinook salmon, Sacramento splittail, black rail and a variety of other threatened species. Thus, the proposed project is an appropriate use of HCF funds.

The 2012-13 appropriation of HCF funds comes from the sale of bonds from the Disaster Preparedness and Flood Prevention Bond Act of 2006 (Proposition 1E). Proposition 1E funds are available for constructing new levees necessary for the establishment of a flood protection corridor; setting back existing flood control levees, and in conjunction with undertaking those setbacks strengthening or modifying existing levees; and relocating or flood proofing structures necessary for the establishment of a flood protection corridor. Pub. Resources Code § 5096.825(b)-(d). The Project involves all of these elements. It would include levee and infrastructure improvement components, including construction of new flood protection levees; relocation and replacement of outboard levee armoring to improve public safety, long-term stability, and flood protection; installation of permanent culverts and flap gates to prevent tidal water from flowing off-site; construction of upland transition zones between flood protection levee segments and tidal marsh areas; and relocation of ISD's effluent pipeline.

The new flood protection levees would replace the flood protection function of perimeter levees that will be breached as part of the Project's marsh restoration. They would be constructed to DWR Urban Levee standards, including 300-year flood protection, and would maintain or improve the existing level of flood protection for properties adjacent to the Project site. Construction or reconstruction of levees surrounding the site would increase resistance to seismic shaking and liquefaction, providing additional flood management benefits to the surrounding lands. Accordingly, the proposed project is an appropriate use of Proposition 1E funds.

A total of $1 million was awarded from the USFWS National Coastal Wetlands Conservation Grant Program, which provides matching grants to States for acquisition, restoration, management or enhancement of coastal wetlands.[1] A total of $1,400,000 (with $1.28 million for Project construction and $120,000 for Conservancy staff costs) was awarded from the USEPA. The source of the USEPA funding is the San Francisco Bay Area Water Quality Improvement Fund, the purpose of which is to protect and restore the water quality of the San Francisco Bay and its watersheds consistent with the San Francisco Estuary Partnership's Comprehensive Conservation and Management Plan. Both grants were awarded specifically for Project work under this proposed authorization. In addition, DWR and DFW will provide the largest share of the Project funding through grants to the RD, as identified above.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

This Project would be undertaken pursuant to Chapter 4.5 of the Conservancy's enabling legislation, Public Resources Code §§ 31160-31165, to address resource and recreational goals in the San Francisco Bay Area.

Section 31162 of the Public Resources Code authorizes the Conservancy to undertake projects and award grants in the nine-county San Francisco Bay Area. The Project site is located

[1] Under 50 CFR § 84.11 coastal wetlands include "freshwater wetlands within estuarine drainages … since these interrelated features are critical to coastal fish, wildlife, and their habitats."

completely within Contra Costa County, one of the nine Bay Area counties and is thus eligible for funding under this program.

With respect to the public access portions of this project, the Conservancy may fund projects to improve public access to, within, and around the bay and urban open space through completion of local trail systems which are part of a regional trail system consistent with locally and regionally adopted master plans. (Pub. Res. Code § 31162(a)). This Project includes regional trails connecting population centers, public facilities, and other recreational amenities consistent with the proposed wetland restoration. (See Letter of Support from the Delta Conservancy, Exhibit 7).

In addition, the Conservancy may act "to promote, assist, and enhance projects that provide open space and natural areas that are accessible to urban populations for recreational and educational purposes." (Pub. Res. Code § 31162(d)). The Project will provide an important open space resource for recreational purposes.

With respect to the tidal marsh restoration portion of the Project, the Conservancy may act "to protect, restore, and enhance natural habitats and connecting corridors, watersheds, scenic areas, and other open-space resources of regional significance." (Pub. Res. Code § 31162(b)). The Project will protect, restore and enhance nearly 1,200 acres of wetlands and open space along the south shore of the Delta, and is a habitat restoration project of regional significance. The Project will provide habitat for several endangered species.

The proposed Project meets all five of the criteria for priority projects set forth in Section 31163(c), as follows: (1) "supported by adopted local or regional plans" - the Project supports the goals of the CALFED Bay-Delta Program's Ecosystem Restoration Program Plan, Bay Delta Conservation Plan, Delta Stewardship Council's Delta Plan, Delta Vision Strategic Plan, and is consistent with the City of Oakley's General Plan; (2) "multijurisdictional or serve(s) a regional constituency" - the Project will provide a regional recreational resource and habitat for endangered species; (3) "can be implemented in a timely way" - the construction of the Project is scheduled to commence in 2015; (4) "provide(s) opportunities for benefits that could be lost if the Project is not quickly implemented" - Conservancy funding is critical to complete the Project. The Project has been specifically identified as a critical action to address the Delta ecosystem's decline and is designed to partially reduce/offset anticipated sea-level rise by bringing subsided land to marsh plain elevations; and (5) "include(s) matching funds from other sources of funding or assistance" – the Project includes more than $24,000,000 in matching funds as described under Project Financing.

The Conservancy is authorized under Public Resource Code, Section 31104, to apply for and accept federal grants and other financial support from public and private sources.

CONSISTENCY WITH CONSERVANCY'S 2013 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

Consistent with **Goal 11, Objective D** of the Conservancy's 2013-2018 Strategic Plan, the proposed Project will restore over 570 acres of tidal wetlands, managed wetlands, seasonal wetlands, subtidal and upland habitat.

Consistent with **Goal 11, Objective F**, the proposed Project will restore 18 acres of riparian woodland and scrub habitat.

Consistent with **Goal 12, Objective B**, the proposed Project will feature recreational facilities including scenic overlooks and interpretive signs.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed Project is consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on October 2, 2014, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Promotion and implementation of state plans and policies:** In addition to the state policies and legislation discussed in the Project History section above, the proposed project promotes implementation of the following state plans and policies:
    - *Delta Plan*, a comprehensive, long-term management plan for the Delta required by the 2009 Delta Reform Act, and adopted by the Delta Stewardship Council in 2013. The Project is specifically addressed in "Recommendation ER R2: Prioritize and Implement Projects that Restore Delta Habitat: Western Delta/Eastern Contra Costa County. Restore tidal marsh and channel margin habitat at Dutch Slough and western islands to support food webs and provide habitat for native species."
    - *Delta Vision Strategic Plan*, a plan to restore the Delta ecosystem and create a reliable water supply for California, prepared by the Governor's Blue Ribbon Task Force in 2008, includes Near Term Actions 8. Advance near-term ecosystem restoration opportunities: Tidal marsh restoration in Dutch Slough.
    - 2014 *Safeguarding California: Reducing Climate Risk* update to the 2009 *California Climate Adaptation Strategy* which seeks to support hazard mitigation by "investing in green infrastructure and other protective structure to address sea level rise," and "restore and create wetlands …"

4. **Support of the public:** The Project has a broad base of support, including: Assemblyman Frazier, Contra Costa County Supervisor Piepho, City of Oakley, Ironhouse Sanitary District, Delta Conservancy, Delta Protection Commission and American Rivers. Hundreds of local citizens have signed petitions, written letters, and spoken in favor of the Project. Letters of support are provided in Exhibit 7.

5. **Location:** The Project is in Contra Costa County within the nine-county San Francisco Bay Area consistent with Section 31162 of the Public Resources Code.

6. **Need:** Over 97 percent of the estimated 350,000 acres of historic tidal marsh in the Sacramento–San Joaquin Delta has been eliminated and many of the native fish species that depend of these habitats are in danger of extinction. This Project would restore a variety of habitats expected to benefit numerous species, including Sacramento splittail, Chinook salmon, bank swallow, black rail, sandhill crane, Swainson's hawk, yellow warbler, black tern, black crowned night-heron, California gull, common yellowthroat, Cooper's hawk, great blue heron, great egret, northern harrier, snowy egret, white-faced ibis, white-tailed kite, yellow-breasted chat, western pond turtle and giant garter snake.

   The rapidly developing cities in eastern Contra Costa County have a significant need for parks and open space. This Project would protect open space and provide recreational opportunities for residents in the region to access the Delta shoreline.

   Conservancy support is needed to manage the federal grants, to provide additional funds to meet the federal match requirements, and complete this phase of the Project.

7. **Greater-than-local interest:** The preservation and restoration of the Project site will protect and enhance nearly 1,200 acres of wetlands and open space along the shore of the Delta. The Project will provide habitat for several endangered species, provide for regionally significant public recreation, and contribute to the goals of several state plans for the Delta.

8. **Sea-level rise vulnerability:** The Project design includes consideration of sea level rise through the 50-year planning horizon of the Project. All tidal wetland restoration projects are vulnerable to sea-level rise impacts; however, accretion can occur through mineral deposition and biomass (plant matter) accumulation. Accretion by plant biomass accumulation, which can be aided through management efforts, is expected to be more significant than mineral deposition at the Project site. However, even the highest rates of natural sedimentation processes may or may not be able to keep up with sea-level rise. As discussed on p. 4.1-21 of the FSEIR, the most recent guidance for sea-level rise in coastal California south of Cape Mendocino (NRC 2012) projects sea-level rise of 4 to 30 cm (1.6 to 11.8 in) by 2030, 12 to 61 cm (4.7 to 24.0 in) by 2050, and 42 to 167 cm (16.5 to 65.7 in) by 2100. A number of features that are likely to minimize the impact of sea-level rise on marsh restoration and its physical evolution have been incorporated into Project design. These features include:
   - Construction of a gradually sloping marsh surface (i.e., the terrestrial ecotone along grassland edges) that provides an elevation gradient over which elevation zones of tidal marsh may shift upslope as sea level rises;
   - Design of the Project's external levees to ensure that they can be adapted to anticipated sea-level rise. Current projections predict that sea-level rise in this area would be between 42 to 167 cm (16.5 to 65.7 in) by 2100 (NRC 2012). The levee alignment would include

adequate setback on the inboard side of the levee to allow future levee raising to keep pace with sea-level rise for the next 50 years.

The restoration approach is to lower high-elevation areas of the site to intertidal elevations and use the excavated fill to extend vegetated tidal wetlands into more subsided areas of the site. The restored tidal wetlands are expected to be relatively sustainable in response to sea-level rise over the 50-year planning horizon of the Project.

Additional Criteria

9. **Urgency:** The severe loss of natural habitats and decline in native species in the Delta requires actions such as implementing this Project as soon as possible to prevent further collapse of the Delta ecosystem.
10. **Resolution of more than one issue**: The Project will create habitat for fish and wildlife, including several threatened and endangered species, improve water quality and flood control, and enhance public access and recreational opportunities. Also, the Project is designed to provide timely and critical information needed to make future Delta restoration projects more successful.
11. **Leverage**: See the "Project Financing" section above.
12. **Innovation**: This is the first large-scale Delta project that seeks to reverse declines in populations of native fishes and provide for experimentation to guide future Delta restoration projects. For example, experiments to evaluate subsidence reversal techniques, such as growing tules to accumulate organic matter (biomass), and techniques to maximize carbon sequestration may be tested through adaptive management.
13. **Readiness**: The Project is expected to be ready to start construction after receipt of all necessary permits, which is expected by the spring of 2015.
14. **Realization of prior Conservancy goals**: See "Project History" above.
15. **Cooperation**: This Project is being implemented through a partnership between the Conservancy, DWR, DFW, RD, and the City of Oakley.
16. **Minimization of greenhouse gas emissions:** The Project is designed to mitigate for its own greenhouse gas emissions over the long term. (See discussion of air quality impacts in "Compliance with CEQA" section, below.)

COMPLIANCE WITH CEQA:

In order to comply with CEQA, DWR with Conservancy assistance prepared an Environmental Impact Report (EIR) to evaluate the potential environmental impacts of the proposed Project. DWR is the lead agency for the Project and formally approved and certified the Final EIR (FEIR; Exhibit 4) on March 17, 2010. (Note: The Draft EIR dated November 2008 and its companion document, Final Environmental Impact Report: Comments and Responses, together constitute the FEIR for the Project.) A Supplemental

EIR was prepared because the currently proposed Project includes a number of substantive changes to the preferred project alternative described in the 2010 FEIR. DWR formally approved and certified the Final SEIR (FSEIR; Exhibit 5) on October 31, 2014. Because this is the Conservancy's first opportunity to review the Project design, both environmental documents are provided for the Board review.

Two neighboring projects proposed by other agencies related to the Dutch Slough Restoration Project (Related Projects), are also evaluated in concept in the FEIR. The FEIR analyses the effects of the Project, considers some of the environmental effects of the two Related Projects and identifies overlapping and cumulative effects of the three projects.[2] However, these effects were not further analyzed in the FSEIR because the Project does not include these Related Projects. As such, this staff recommendation will not further discuss potential environmental impacts from the Related Projects.

The FEIR analyzes a range of restoration alternatives to meet the habitat restoration, research and recreation goals of the Project, with consideration of economic feasibility and public safety. The restoration alternatives were developed through the Notice of Scoping to provide both sustainable ecosystem restoration benefits and adaptive management experiments. Other than the No-Project alternative (Alternative 4), the alternatives consider a mix of cut and fill options for accomplishing environmental restoration of the Project site. The alternatives are:

- Alternative 1: Low marsh and open water emphasis with minimal grading (Minimum Fill Alternative)
- Alternative 2: Mix of mid marsh, low marsh, and open water with moderate fill (Moderate Fill Alternative)
- Alternative 3: Mid marsh and low marsh emphasis with imported fill (Maximum Fill Alternative)
- Alternative 4: No Project: This alternative addresses leaving the site in current uses, consistent with existing City of Oakley (Open Space) general plan and zoning designations.

Some of the alternatives include implementation options, which are also addressed in the document. In Alternatives 2 and 3, Marsh Creek could be diverted onto the Project site (or Ironhouse Project site) to restore a natural delta at the mouth of the creek. In addition, under Alternatives 1, 2, and 3, several management options are considered for the proposed open water areas. Also considered is the option to retain the Burroughs parcel as upland habitat (the "No-Burroughs" option). The three restoration alternatives are consistent with providing high quality public access and restoration opportunities, and provide for protection of existing infrastructure. DWR determined that Alternative 2, with the diversion of Marsh Creek onto the Project site, achieves the most advantageous and reliable long-term balance of environmental restoration

[2] Although the FEIR provides some environmental analyses of the City Community Park and Ironhouse Project, subsequent CEQA review may be required for the related projects by their respective Lead Agencies (City of Oakley and ISD). Since these are not part of this project approval, Conservancy review of these projects is only relevant to the cumulative effects of all three projects on the project area.

benefits and risks, given realistic assumptions about Project implementation, funding, schedule, and full consideration of the long-term sustainability of publicly-owned conservation lands managed for habitat values in the Delta landscape. The Project is designed to adapt to anticipated global climate change, including sea-level rise, and to mitigate for its own greenhouse gas emissions (see Exhibit 6, Mitigations 3.6.1-31 and -32). Issues related to global climate change are discussed in detail in a number of sections of the FEIR.

The FEIR and FSEIR contain a complete discussion of all of the significant and potentially significant environmental impacts of the proposed Project and mitigation measures to address these impacts. The mitigation measures[3] to address the Project's significant impacts are set forth in the FSEIR and summarized in the Mitigation Monitoring and Reporting Program (MMRP), attached as Exhibit 6. This staff recommendation summarizes those significant and potentially significant Project impacts and cumulative impacts which merit discussion relevant to this authorization.

Adaptive Management's role in preventing significant impacts

In the Project Description section above, there is a discussion of how adaptive management is central to Project design and implementation. A team of scientific specialists developed the adaptive management plan for this Project and it represents some of the scientific innovation anticipated with this Project. By incorporating the adaptive management process into the design of the Project, the Project will be able to avoid what could be potentially significant impacts if there was no such program in place. Several critical monitoring results ("management triggers") have been identified in the FEIR and FSEIR as indications of where undesired environmental impacts may be starting to occur. Using information from monitoring and applied studies, project managers will periodically assess progress towards Project objectives and restoration targets and if results indicate problems are developing, management action will be "triggered." The FEIR lists potential actions managers could take to correct current operations and avoid undesired impacts in response to each "trigger." Furthermore, project managers will be able to revise the conceptual models and restoration plans based on what has been learned, and to use this new knowledge for designing future implementation phases, where applicable. Adaptive management differs from mitigation in that it is not a series of specified remedial actions that address negative impacts. Rather adaptive management tries to detect potential problems early on and take actions to avoid or reverse the impacts while also informing future Project decisions.

Significant Effects Reduced To Less Than Significant Levels by Mitigation

As discussed above, the Project is expected to have many beneficial impacts; however, the Project also could have significant adverse environmental impacts.[4] Most of these

[3] Ancillary activities, such as water-quality monitoring, design services, and project management, proposed in this authorization are intended to avoid, reduce or mitigate the effects of the implementation projects and are not a part of the Project impacts as defined by CEQA (14 Cal Code of Regulations Sections 15061(b)(3) and 15378).

[4] Because the environmental restoration is "the project" for purposes of the analysis, the future environmental

potential impacts are reduced to a less-than-significant level with the mitigation measures briefly described by topic below and summarized in the MMRP (Exhibit 6).

Hydrology and Geomorphology

The Project would have potential impacts including erosion in terminal sloughs due to increased tidal prisms, possible decreased flood flow conveyance of Marsh Creek, possible changes in groundwater levels due to groundwater seepage and sedimentation issues. Hydrologic and geomorphic impacts would be less than significant or would be mitigated to less than significant levels by implementation of mitigation measures identified in the MMRP, such as:

- including performance standards and adaptive management contingencies for site evolution and development;
- monitoring of erosion in the terminal sloughs and if necessary making improvements such as channel armoring;
- monitoring of the new Marsh Creek channel and dredging it, as necessary; and
- monitoring of groundwater levels and, if necessary, developing a compensatory program for groundwater seepage impacts.

Sea-Level Rise

The Project would be designed such that planned levees and deposition of plant materials and sediments would partially reduce/offset the effects of anticipated sea-level rise, however this impact may still be significant. The Adaptive Management Plan will address these impacts over time. (Additional information is provided in this Staff Recommendation under Consistency with Conservancy's Project Selection Criteria & Guidelines, Required Criteria, Sea-level rise vulnerability.)

Water Quality

Although the Project would have long-term beneficial effects on water quality both within the Project area and the surrounding water bodies, the Project would have potential short-term impacts of degradation of water quality due to potential release of contaminants and sediment from construction activities, degradation of water quality due to increased mercury and dissolved organic carbon in Delta waters, increased erosion and turbidity, and possible degradation of water quality from other pollutant sources associated with fill materials and Marsh Creek flows. Water quality impacts would be mitigated to less than significant levels by implementation of mitigation measures identified in the FEIR and FSEIR, such as:

- preparing a Stormwater Pollution Prevention Plan and training contractors in implementation of stormwater Best Management Practices; and

benefits of the Project could not be used to avoid the need to address short-term environmental impacts from construction of the restoration project. (See 14 Cal. Code Reg. § 15378 ("Project" means the whole of an action, which has a potential for resulting in … direct physical change in the environment…). However, consideration of the long-term environmental benefits of the Project is relevant to the Statement of Overriding Considerations.

- the site will not be inundated (connected to tidal water sources) until surface soil conditions have been stabilized, all construction debris removed, and all surface soils containing chemicals in excess of screening criteria have been remediated or removed from the site.

Geology and Soils

The Project would have potential impacts of exposing people or structures to potential substantial adverse effects (including liquefaction and levee failure) resulting from strong seismic ground shaking, erosion of soil, and seepage-induced levee failure. All short-term geological and soils impacts would be less than significant or would be mitigated to less than significant levels by implementation of mitigation measures identified in the FEIR and FSEIR, such as conducting geotechnical investigations and appropriately designing, constructing, monitoring and maintaining levees. In addition, through construction or reconstruction of levees surrounding the site to increase their resistance to seismic shaking and liquefaction, the Project would provide additional flood control benefits to the surrounding lands.

Biological Resources

The Project would provide significant habitat benefits by creating tidal marsh and other habitats; however, the Project would also have potentially significant impacts to wildlife by disturbing or eliminating existing freshwater marsh and seasonal wetland habitats and terrestrial habitats including riparian woodland/scrub, as well as short-term impacts to a number of individual sensitive species. Impacts to terrestrial biological resources would be less than significant or would be mitigated to less than significant levels by implementation of mitigation measures identified in the FSEIR, such as conducting preconstruction surveys; removing vegetation prior to the breeding season to discourage nesting and denning; and implementing compensatory mitigation plans as necessary.

Similarly, the Project would have long-term beneficial effects on aquatic resources both within the Project site and in surrounding waters, although decreased water quality, creation of habitat for non-native fishes, entrainment of fish, and levee repair activities as a result of Project construction may have limited adverse impacts to some aquatic species. Most Project impacts would be less than significant or would be mitigated to less than significant levels by implementation of mitigation measures identified in the FSEIR. These include installing fish screens on pumps and culverts; limiting water-level management activities during migration periods for sensitive species; and facilitating greater tidal exchange to the marsh if necessary. There may be significant unavoidable impacts to aquatic resources related to the potential introduction of non-native fish, as discussed in the Statement of Overriding Considerations subsection below.

Air Quality

The Project would have potential short-term impacts from construction emissions, which would be mitigated to less than significan**t** levels by implementation of mitigation measures identified in the FEIR, such as implementing Best Management Practices. Vehicular emissions of all alternatives would be less than significant. In the long-term, the Project would reduce dust emissions associated with agricultural uses of the site. The Project would emit greenhouse gases

during construction; however, in the long term, the Project is expected to sequester carbon, resulting in a net reduction in greenhouse gases from the site. (See FEIR pp. 3.6.1-12,-13)

Noise

The Project would have potential short-term construction noise impacts that would be less than significant with mitigation, such as minimizing passing noise-sensitive land uses (e.g., schools), during hauling of soils.

Recreation

The Project would have the potential to generate conflicts between non-motorized watercraft and motorized watercraft. Recreational impacts would be less than significant or would be mitigated to less than significant levels by implementation of mitigation measures identified in the FEIR, such as posting speed limit signs in Emerson and Little Dutch sloughs and "no motorized watercraft allowed" signs at the entry points to the new open water areas.

Cultural Resources

The Project would result in significant unavoidable impacts related to loss of historic buildings and landscapes, as discussed in the Statement of Overriding Considerations subsection below. An old vineyard on a portion of the Emerson site also has historic values, as does archeological site CA-CCO-820/H which was discovered on the Gilbert parcel in 2010. However, the Project has since been redesigned to reduce the impacts to these historical resources. As a result of the redesign, these impacts are mitigated to less than significant levels by implementation of mitigation measures identified in the FSEIR, such as developing a Cultural Resources Monitoring and Inadvertent Discoveries Plan in consultation with DWR, State Historic Preservation Officer, U.S. Army Corps of Engineers, and the Native American community. This plan will include required monitoring of sensitive soils within the Project area and the protocol to follow in the event of inadvertent discovery of archaeological material.

Hazards and Hazardous Materials

The potential effects of soils contamination and building demolition would be mitigated to less than significant levels by implementation of mitigation measures identified in the FEIR, such as conducting surveys to identify any remaining hazardous materials.

Cumulative Impacts

The Project and other proposed or approved projects in the area could potentially result in short- or long-term cumulative impacts to hydrology and geomorphology, water quality, geology and soils, air quality, noise, aesthetics, land use, recreation, transportation/traffic, public services, utilities and service systems, and hazardous materials; however, all of these cumulative impacts would be less than significant or less than significant after mitigation. Additionally, the Project and other proposed or approved projects in the area also would result in cumulative benefits associated with provision of habitat for aquatic resources as well as recreation.

The Project and other proposed or approved projects in the area would contribute to significant cumulative impacts on terrestrial and wetland biological resources, and on the Dutch Slough Rural Historic Landscape. Mitigation would reduce the Project's contribution to these impacts; however, they would still be significant as described below.

Statement of Overriding Considerations

In the event a project has unavoidable significant potential effect, the CEQA Guidelines require the decision-making agency to balance the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project (14 Cal. Code of Regs. § 15093). If the specific project benefits outweigh the unavoidable adverse environmental effects of the project, a Statement of Overriding Considerations may be adopted and the project approved, despite its adverse environmental effects.

The project's potentially significant impacts which may not be avoided are summarized below.

- Creation of Habitat that Benefits Non-native Fish Species While the goal of the Project is to create tidal and freshwater wetland habitats for the benefit of native fishes, there is a chance that the created habitats could favor non-native species that prey on native species. The fish assemblages found in tidal freshwater wetlands in the Delta are dominated by alien species. This impact applies mainly to the open water and subtidal portions of the Project. Because the final outcome of the created aquatic habitat cannot be determined, the significance of this impact cannot be predetermined and it will be considered potentially significant. The problems caused by nonnative fishes are ubiquitous throughout the Delta and the subsequent invasion of the site by these species may be an unavoidable consequence of the Project.
- Demolition of Historic Structures/Landscape Features that Contribute to Rural Historic Landscape The buildings and landscape features on the Project site are eligible for the California Register as a "Rural Historic Landscape." Under the CEQA Statutes and Guidelines a "substantial adverse change" such as "…demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historic resource would be materially impaired" is considered to be a significant effect on historic resources. The Project (and related City Community Park Project) proposes to demolish all but four buildings and substantially modify all related landscape features on the three parcels. Four buildings will be retained in the "Historic Area" of the City Park. Preserving the Rural Historic Landscape is incompatible with the proposed future uses of the site (restored natural habitats and City Park). Moving the structures is unlikely due to the poor condition of the buildings, engineering difficulties of moving the structures, and lack of public or private interest in moving the buildings to a new site. On the City Park site, several buildings from the original dairy will be preserved. However, on the Project site, the new land use (natural habitat restoration) is not compatible with maintaining structures that reflect the past agricultural/dairy uses, so this loss is unavoidable.
- Cumulative Impacts to Cultural Resources In addition to the Rural Historic Landscape, construction of the Project has the potential to impact known and undiscovered cultural resources. Buried resources could be displaced, disturbed, and possibly destroyed by earthmoving equipment. This potential impact, if it occurs, would be significant. Non-disturbance of the site's soils, to protect buried cultural resources, is infeasible. Treatment Plans for the known resources and for inadvertent discoveries have been prepared by

qualified professionals, and will be carefully followed by all construction, DWR, and consultant staff. These plans, in addition to detailing avoidance measures, include measures to document and make public information about the prehistoric and historical residents and uses of the Project property. Despite these plans and other mitigation measures identified in the FSEIR, the potential impact to buried cultural resources is significant and unavoidable.

Staff suggests that the overall environmental benefits of the proposed Project as detailed in the FEIR and SFEIR warrant the Conservancy's decision to approve the Project even though not all of the adverse environmental effects of the Project are fully mitigated. The proposed Project cannot be implemented in a way that accomplishes the fundamental Project purposes and basic objectives without resulting in the unavoidable impacts described above. The Project would provide the following public benefits that justify proceeding with the Project despite the environmental cost of the residual significant effects:

1. Restore a diversity of habitats historically present in the Delta including freshwater emergent marsh, tidal channels, riparian woodland, and native grassland.
2. Provide habitat for native species, including listed and sensitive species.
3. Contribute to the recovery of endangered and other at-risk species and native biotic communities.
4. Support the Delta food web by producing and exporting nutrients.
5. Contribute to scientific understanding of restoration processes and increase the success of other Delta restoration projects.
6. Provide shoreline access, recreational, and educational opportunities, including information about prehistoric and historical residents and past cultural uses of the Project property.

Staff recommends that balanced against the long-term environmental, economic, social, and other benefits of the Project, the benefits of the Project outweigh its unavoidable adverse environmental effects.

For these reasons, the Conservancy staff recommends that the Conservancy find that the Project, as mitigated, avoids or reduces to less than significant the potentially significant environmental effects of the Project, except for the unavoidable significant impacts. With respect to these potential unavoidable effects, Conservancy staff recommends that the Conservancy adopt the findings contained in the proposed resolution and the Statement of Overriding Considerations (as required by 14 CCR § 15093) hereby warranting Project approval.

Upon Conservancy approval of the proposed Project, Conservancy staff will prepare and file a Notice of Determination.